



Hindi & English

JOINTS

(Synovial Joints)

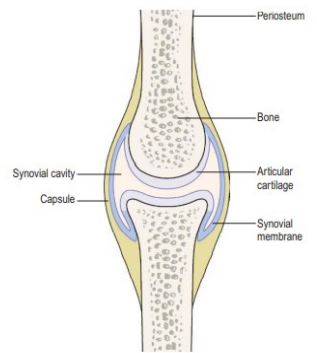


Figure 16.45 The basic structure of a synovial joint.



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Contents of the Lecture:

- 🔦 Introduction
- 🔦 Types of Joints
- 🔦 Synovial Joints

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Introduction

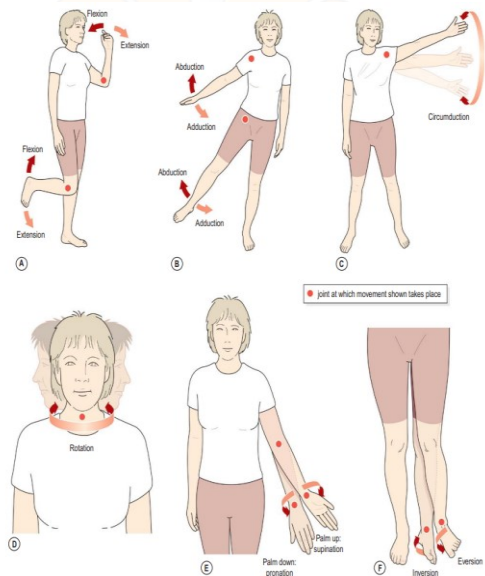


Figure 16.46 The main movements possible at synovial joints.

- A **joint** is the connection site (**articulate**) at which two or more bones/Bones with cartilage are connected with each other.
- **Arthrology:** It is the scientific study of joints
- **Kinesiology:** It is the study of the motion of the human body.
- **Main Function:** Joints allow flexibility and movement of the skeleton and allow attachment between bones.

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Joints

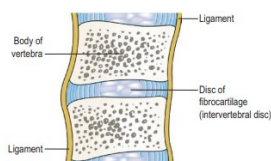


Figure 16.44 The cartilaginous joint between adjacent vertebral bodies.

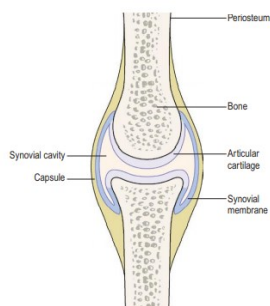


Figure 16.45 The basic structure of a synovial joint.

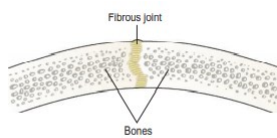


Figure 16.43 Suture (fibrous joint) of the skull.

Types of Joints

1. Fibrous joints
2. Cartilaginous Joints
3. Synovial Joints

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Joints

Synovial Joints

- Synovial joints are characterized by the presence of a **space or capsule** between the articulating bones
- The ends of the bones are held close together by a sleeve of fibrous tissue, and lubricated with a small amount of fluid (**Synovial Fluid**)
- **Synovial joints** are the most moveable of the body.

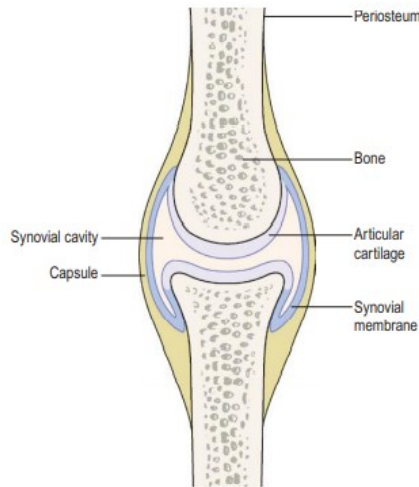


Figure 16.45 The basic structure of a synovial joint.

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Joints

Synovial Joints Characteristics

- **Articular cartilage/Hyaline cartilage**:-The part of bone are covered with cartilage. It provides a smooth articular surface.
- **Capsule & capsular ligament**:- The joint is surrounded & enclosed by a sleeve of fibrous tissue which hold the bone together. It is sufficient loose to allow freedom of movement but strong enough to protect it from injury.
- **Synovial membrane**:- This is composed of epithelial cell & is found—Lining the capsule
- **Synovial fluid**:-This is the thick sticky fluid of egg-white consistency secreted by synovial membrane in to synovial cavity.
- It provides, nutrients; act as a lubricants; Contains Phagocytes; & Maintains stability.

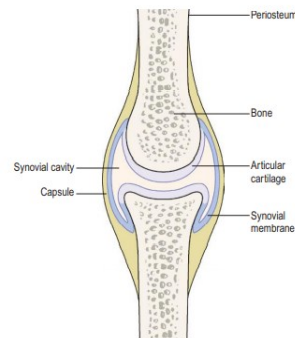


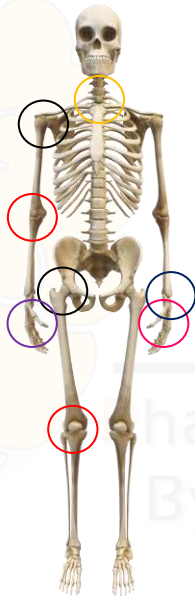
Figure 16.45 The basic structure of a synovial joint.

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Joints

Synovial Joints

- **Ball and Socket Joint**
- **Hinge Joint**
- **Pivot Joint**
- **Gliding Joint**
- **Saddle Joint**
- **Condyloid Joint**



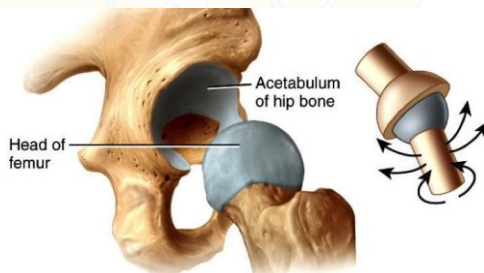
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Joints

1. Ball and Socket Joint

- Is allows the greatest range of **movement**
- In this joint, head of the bone fits into a socket of another bone.
- Held together by ligaments and tendons
- Eg. Shoulder and hip joints



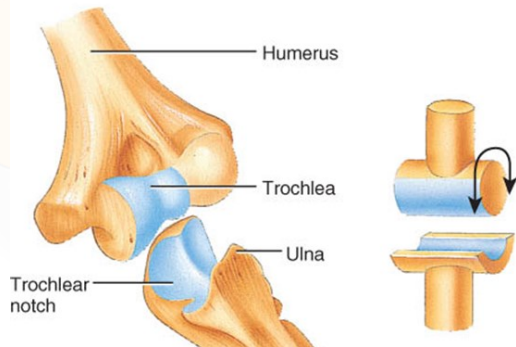
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Joints

2. Hinge Joint

- Allow flexion and extension with only a small amount of rotation.
- Eg. Elbow, knee, ankle, finger, toes

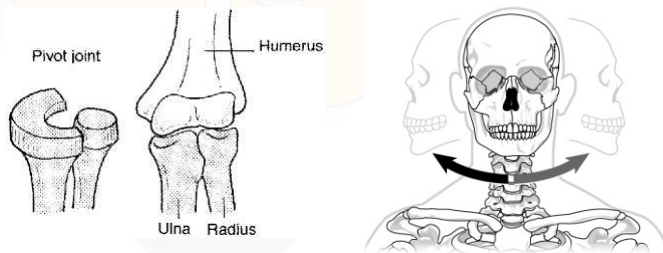


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Joints

3. Pivot Joint

- Allow rotation.
- Eg. Proximal & distal radio-ulnar joint,

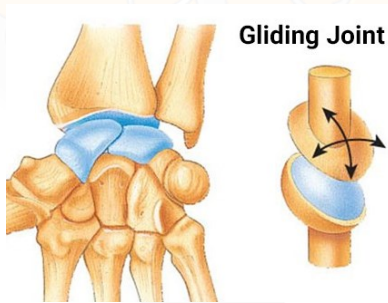


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Joints

4. Gliding Joint

- In this joint the articular surface of bone it looks flat & move on the another bone in slipping movement.
- Eg Sternoclavicular joint & Joint b/w carpal & tarsal bone,

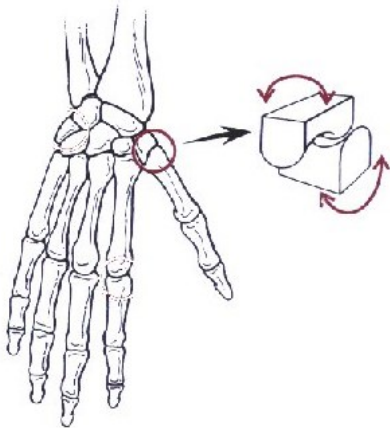


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Joints

5. Saddle Joint

- The saddle joints allow the movement of the joint forward and backwards, and right to left.
- Eg. Wrist joint

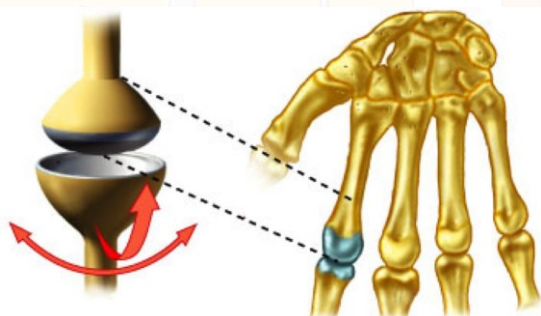


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Joint

6. Condyloid Joint

- This allows for movement in all directions, however full rotations.
- Eg. Wrist joint, Metacarpophalangeal joint, Metatarsal phalangeal joint



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